



Europass Curriculum Vitae

Personal information

First name(s) / Surname(s) **Adrian Focşa**
Address(es) 39-49rd George Cosbuc Ave., sector 5, Bucharest, code:050141, ROMANIA
Telephone(s) Mobile: 0040766716307 Telephone(s) Mobile: 0040766716307
E-mail focsa.adrian@yahoo.ro / adrian.focsa@mta.ro
Nationality Romanian
Date of birth 05.06.1993
Gender Male

Work experience

Dates 2016-2023
Position Teaching assistant (associate)
Employer Military Technical Academy “Ferdinand I” (ATMF1)

Dates 2018-2023
Position Engineer, PhD researcher, assistant researcher
Employer CEOSpaceTech, University “Politehnica” of Bucharest (UPB)

Dates 2023-onwards
Position Engineer, postdoctoral researcher
Employer CEOSpaceTech, University “Politehnica” of Bucharest (UPB)

Dates 2023-onwards
Position Lecturer (associate)
Employer Military Technical Academy “Ferdinand I” (ATMF1)

Project experience (selection) - **responsible** for the **AI4RISK** project funded by the Ministry of Research, Innovation and Digitization, CCCDI – UEFISCDI, project number PN4-P6-32/3.09.2024 within PNCDI IV
- key person in the national project: **DEFEND** - *Drone Network for search and rescue*
- PN-III-P2-2.1-PED-2016-0732;
- key person in the project: **PSTool** - *Persistent Scatterers Time-Series Analysis and Post-processing Tool with Application to Infrastructure Threat Detection*, contract 126/2017;
- key person in **S14Ro** *Innovative service for national infrastructure stability monitoring* (contract no. 64 PTE/2020);
- developed sped-up SAR processor in the context of **BULLP** Bulk Processing via Parallel Computing project and worked on SAR data compression via AI-driven approaches on **ARTISTE** project (ESA projects);
- key person in **xAI** national project - *Explainable Deep Learning for Earth Observation* PN-III-P4-ID-PCE-2020-2120;

- key person concerning the design of the through-the-wall scanning scenarios and the SAR image formation/autofocus tasks in **WALLRAD** national project;
- key person regarding micro-Doppler investigations based on single pass SAR imagery for infrastructure monitoring **MIDAS** (European Space Agency grant).

Education and training

Dates	October 2018 - 2022
Title of qualification awarded	Doctor of Philosophy (<i>summa cum laude</i>), Thesis title: <i>Advanced Synthetic Aperture Radar Computational Imaging Methods for Monostatic and Bistatic Configurations</i>
Name and type of organization providing education and training	University “Politehnica” of Bucharest, Bucharest, Romania (University) - Faculty of Electronics, Telecommunications and Information Technology – CEOSpaceTech -Research Center for Spatial Information
Dates	October 2016 – June 2018
Title of qualification awarded	Master of science in electronic engineering, telecommunication and information technology (<i>Advanced Techniques in Digital Image Processing</i>)
Name and type of organization providing education and training	University “Politehnica” of Bucharest, Bucharest, Romania (University) - Faculty of Electronics, Telecommunications and Information Technology
Principal subjects/occupational skills covered	-advanced digital image, video and sound processing and analysis; -video compression and coding systems; -data analysis and machine learning, computer vision;
Dates	September 2012 –July 2016
Title of qualification awarded	Bachelor of science in electronic systems and telecommunications
Name and type of organization providing education and training	Military Technical Academy- Military electronic systems and equipment (Radar Systems, Missile Guidance and Control Systems)
Principal subjects/occupational skills covered	- digital image processing and artificial intelligence - assembly and high-level programming - analogue and digital integrated circuits - microprocessor and microcontrollers architectures - radio emitters - electronic circuit design - mathematics and calculus
Dates	2008 - 2012
Name and type of organization providing education and training	Military High-School “Stefan cel Mare” (Câmpulung-Moldovenesc, Romania)
Title of qualification awarded	Baccalaureate diploma
Principal subjects/occupational skills covered	Mathematics, Physics, Programming, Military training
Contests/Competitions	- The National Mathematics Competition "Traian Lalescu", national stage, 3rd prize,2013, Alba Iulia - The National Mathematics Competition "Traian Lalescu", national stage, mention,2014, Timisoara

Technical skills and competences -Very good skills in signal analysis and digital image processing using both classic and machine learning approaches;
-Design, simulation, and building of electronic circuits.
-Good skills concerning antennas and electromagnetic wave propagation;

Digital skills and competences Engineering software: MATLAB, C, embedded C, C++, Java, Python, MikroC, Proteus, OrCAD, OpenGL, OpenCV, Photoshop/Gimp
Common software: Windows, Microsoft Office, Latex
Operating systems: Windows, Linux

Mother tongue(s) **Romanian**
Other language(s) **English, French**

Self-assessment	Understanding		Speaking		Writing
<i>European level (*)</i>	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
French	B2	B2	B2	B2	B2

(*) *Common European Framework of Reference for Languages*

Social skills and competences - Good communication skills, team spirit, adaptability.

Organizational skills and competences - experience in teaching at Military Technical Academy "Ferdinand I";
- member of Scientific Council of Military Technical Academy "Ferdinand I"
- jury member of Traian Lalescu contest, National Student Scientific Conference (2024)
- session chair at International Geoscience and Remote Sensing Symposium, Pasadena, California (USA) (IGARSS 2023)
- session co-chair at The 15th International Conference on Communications 2024, Bucharest, Romania

Driving license **B**

Additional information - Data Assimilation summer school, Timișoara, Romania, 2019
- Internship at German Aerospace Agency (DLR- Deutsches Zentrum für Luft- und Raumfahrt , Oberpfaffenhofen, Germany) in 2015 (two months);
- jury member CERC 2017-2025 student conferences, Robotics and Automation section, Military Technical Academy, Bucharest, Romania
- graduated European Space Agency – Echoes in space (2017);
- former member in technical team of *Journal of Military Technology*.
- SEEA Grants – internships at University of South-Eastern Norway in 2019 and 2022;
- Participated with posters at ESA Phi-week 2020/2021 and ESA Living Planet 2022
- former IEEE Student Member;
- reviewer for IEEE GRS journals, IEEE Transactions on Radar Systems;

Published work (selection) **A. Focsa**, A. Anghel, M. Datcu and S. -A. Toma, "Mixed Compressive Sensing Back-Projection for SAR Focusing on Geocoded Grid," in IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol. 14, pp. 4298-4309, 2021, doi: 10.1109/JSTARS.2021.3072208.

A. Focsa, A. Anghel and M. Datcu, "A Compressive-Sensing Approach for Opportunistic Bistatic SAR Imaging Enhancement by Harnessing Sparse Multiaperture Data," in IEEE Transactions on Geoscience and Remote Sensing, vol. 60, pp. 1-14, 2022, Art no. 5205914, doi: 10.1109/TGRS.2021.3071861.

- A. Focsa**, A. Anghel and M. Datcu, "Accelerated Back-Projection SAR Processor on Arbitrary Elliptical Imaging Grid With Azimuth Spectrum Unfolding," in *IEEE Geoscience and Remote Sensing Letters*, vol. 20, pp. 1-5, 2023, Art no. 4008005, doi: 10.1109/LGRS.2023.3298696
- O. Ghozatlou, M. Datcu, **A. Focsa**, M. Heredia Conde and S. L. Ullo, "A Review and a Perspective of Deep Active Learning for Remote Sensing Image Analysis: Enhanced adaptation to user conjecture," in *IEEE Geoscience and Remote Sensing Magazine*, vol. 12, no. 3, pp. 125-148, Sept. 2024, doi: 10.1109/MGRS.2024.3403423
- R. M. Asiyabi, M. Datcu, A. Anghel, **A. Focsa**, M. Martone, P. Rizzoli, E. Embembo "Complex-Valued Autoencoder-based Neural Data Compression for SAR Raw Data," in *IEEE Journal of Selected Topics in Signal Processing*, doi: 10.1109/JSTSP.2025.3558651.
- Vizitiu, Alexandru Mădălin, Marius Alexandru Sandu, Lidia Dobrescu, **Adrian Focsa**, and Cristian Constantin Molder. "Comparative Approach to De-Noising TEMPEST Video Frames." *Sensors* 24, no. 19 (2024): 6292.
- A. Focsa**, S. -A. Toma and D. Gorgoteanu, "On the Interferometric Capabilities of the Pulsar P440 UWB Radar," 2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS, 2021, pp. 8201-8204, doi: 10.1109/IGARSS47720.2021.9553329.
- A. Focsa**, A. Anghel, Ș. -A. Toma and M. Datcu, "Synthetic Aperture Radar Focusing Based on Back-Projection and Compressive Sensing," IGARSS 2020 - 2020 IEEE International Geoscience and Remote Sensing Symposium, 2020, pp. 2376-2379, doi: 10.1109/IGARSS39084.2020.9323775.
- A. Focsa**, M. Datcu, S. -A. Toma, A. Anghel and R. Cacoveanu, "Opportunistic Bistatic SAR Image Classification Using Sub-aperture Decomposition," 2020 13th International Conference on Communications (COMM), 2020, pp. 203-207, doi: 10.1109/COMM48946.2020.9141953.
- A. Focsa**, M. Datcu and A. Anghel, "Compressed sensing-based multi-aperture focusing of spaceborne transmitter/stationary receiver bistatic SAR data," 2020 IEEE Radar Conference (RadarConf20), 2020, pp. 1-4, doi: 10.1109/RadarConf2043947.2020.9266567.
- A. Focsa**, A. Anghel, and M. Datcu, "Inter-polarization Mapping via Gaussian Process Regression for Sentinel-1 EW Denoising," *accepted* for IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium, 2022.
- A. Focsa**, Ș. -A. Toma and M. Datcu, "Maximum entropy image reconstruction applied to C-band ground based synthetic aperture radar," 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Fort Worth, TX, USA, 2017, pp. 3437-3440, doi: 10.1109/IGARSS.2017.8127737.
- A. Focsa**, A. Vlădescu, Ș. -A. Toma, D. Gorgoteanu, A. Anghel and M. Coca, "Handheld Synthetic Aperture Radar for Through the Wall Imaging: Motion Errors Compensation," IGARSS 2023 - 2023 IEEE International Geoscience and Remote Sensing Symposium, Pasadena, CA, USA, 2023, pp. 2203-2206, doi: 10.1109/IGARSS52108.2023.10281951.
- A. Focsa**, A. Anghel and M. Datcu, "Elliptical grid generation for sped-up back-projection on bistatic SAR with ground based stationary receiver," IGARSS 2023 - 2023 IEEE International Geoscience and Remote Sensing Symposium, Pasadena, CA, USA, 2023, pp. 7832-7835, doi: 10.1109/IGARSS52108.2023.10282479.